A Revision of the *Cryptandra propinqua* Complex (Rhamnaceae: Pomaderreae)

JÜRGEN KELLERMANN[1, 2] AND FRANK UDOVICIC[1]

[1]National Herbarium of Victoria, Royal Botanic Gardens Melbourne, Birdwood Avenue, South Yarra, Victoria 3141 (juergen.kellermann@rbg.vic.gov.au)
[2]School of Botany, The University of Melbourne, Victoria 3010.

Kellermann, J. & Udovicic, F. (2007). A Revision of the *Cryptandra propinqua* complex (Rhamnaceae: Pomaderreae). *Proceedings of the Linnean Society of New South Wales* **128**, 81-98.

Four species are recognised in the *Cryptandra propinqua* complex: *C. propinqua* A. Cunn. ex Fenzl, *C. ciliata* A.R. Bean, *C. speciosa* A. Cunn. ex Kellermann & Udovicic, here as new described, and *C. magniflora* F.Muell., here re-instated. Two subspecies are recognised and described as new: *C. propinqua* subsp. *maranoa* Kellermann & Udovicic and *C. speciosa* subsp. *strigosa* Kellermann & Udovicic. The recently named taxon *C. rigida* A.R. Bean is reduced to synonymy under *C. propinqua* subsp. *propinqua*. Descriptions, illustrations of flowers and distribution maps are provided for each taxon. A lectotype is designated for *C. magniflora*.

Manuscript received 11 July 2006, accepted for publication 13 December 2006.

KEYWORDS: Australia, flora, *Cryptandra*, New South Wales, Pomaderreae, Queensland, Rhamnaceae, South Australia, taxonomy, Victoria.

INTRODUCTION

Cryptandra Sm. is the second largest genus of Australian Rhamnaceae. It occurs mainly in the heathlands and woodlands of temperate to semi-arid Australia and extends from south-western Western Australia to south-eastern Australia, some species occur in subtropical and tropical Queensland and there are scattered occurrences in the Kimberley, Pilbara and northerly part of the Northern Territory (Ladiges et al. 2005, Kellermann et al. 2005, Kellermann 2006). Key synapomorphies for the genus are one-flowered inflorescences, imbricate rows of bracts surrounding the base of the flower, a densely tomentose disk surrounding the base of the ovary, fruitlets that dehisce by a slit to release the seed, and stipules that are fused around the base of the petiole (Thiele and West 2004, Thiele 2007).

The species of the *Cryptandra propinqua* complex are widely distributed from the mallee regions of South Australia and Victoria to inland and coastal New South Wales and Queensland. Taxa in the complex have relatively large flowers, with sepals usually longer than the free part of the hypanthium. The base of the flowers is surrounded by many (up to 11) spirally arranged bracts, which often cover part of the floral tube as well. In Western Australia, the closest relatives on morphological grounds appear to be *C. aridicola* Rye and *C. minutifolia* Rye (Rye 1995).

Previous research on species in the *C. propinqua* complex has so far been focussed on state floras, and no attempt had been made since Bentham (1863) to examine specimens over their whole range of distribution. In preparation for the 'Flora of Australia' treatment of Rhamnaceae, herbarium specimens were examined from all major Australian herbaria, allowing a comprehensive study of *C. propinqua* and related taxa.

TAXONOMIC HISTORY

Allan Cunningham was the first botanist to collect specimens of the *Cryptandra propinqua* complex, during expeditions in New South Wales and southern Queensland in 1823, 1825 and 1827. Cunningham

apparently realised that there were two different species present in New South Wales. He gave the taxon he collected as number 24 the manuscript name '*C. speciosa*' and described it as a 'shrub of rigid habit frequent in the barren rocky situations in various parts of the Interior from the latitude of 29 to 33 S. & Long. 151-148 flowering actually in May & June' (note on BM 50750). He distinguished this inland species from the tablelands from a closely related coastal taxon with collecting number 22, which was named by him '*C. propinqua*'. Fenzl published *C. propinqua* in a footnote in 'Enumeratio plantarum ... Hügel' in 1837, taking up Cunningham's manuscript name. However, he could not have received material of Cunningham's collection of '*C. speciosa*', and this taxon remained unnamed. Fenzl did not indicate a collecting number or precise locality in the protologue. This led to confusion about the circumscription of *C. propinqua*, since some authors assumed that both Cunningham collections represent the same species. An examination of the type at W (Fig. 1) revealed that the material Fenzl used to name the species was indeed the coastal form collected by Cunningham under number 22 (Judy G. West, pers. comm., July 2005).

In 1862 Ferdinand von Mueller published *C. magniflora*, a species that occurs in the Victorian and South Australian mallee region and extends into New South Wales. This was later reduced by Bentham (1863) to a variety of *C. propinqua* under the name *C. propinqua* var. *grandiflora*. Bentham's concept of var. *grandiflora* also included the unnamed '*C. speciosa*' of Cunningham. He writes in his description of the variety that it 'is also amongst Cunningham's plants who had given it the name *C. speciosa*, and designated the smaller variety by that of *propinqua*, as being near the larger one. Unfortunately this latter name was the only one in the Vienna herbarium, and was thus, although inappropriate, adopted by Fenzl for the species' (Bentham 1863: 442).

Figure 1. Holotype of *Cryptandra propinqua* A. Cunn. ex Fenzl. *A. Cunningham 22* (W).

Bentham's separation of the species into two varieties was not followed by subsequent botanists, who adopted the name *C. propinqua* for all taxa involved, mainly due to a lack of 'good characters' (note on NSW 386701, dated 14 Sep. 1962). For example, Burbidge (1970), Canning and Jessop (1986) and Harden (1990) stated that *C. propinqua* was distributed in South Australia, Victoria, New South Wales and Queensland (the addition of Western Australia to the area of distribution by Harden was due to a mis-identification of specimens). Other botanists had a different concept of the species, depending on the geographic area in which they worked. Black (1926, 1952) stated that the species occurred in South Australia, Victoria and western New South Wales only, therefore excluding the coastal taxon. Beadle et al. (1962) remarked that *C. propinqua* was found at the coast, but Beadle (1980) stated its distribution to be in the N.S.W. Tablelands. Walsh and

Udovicic (1999) wrote that there were two forms of *C. propinqua* in Victoria, one in the northern mallee region, and a second form in eastern Victoria that continues into south-eastern N.S.W.

The situation in Queensland is more complex. C.T. White collected specimens of the coastal taxon at the Glasshouse Mountains, mistakenly identifying it as *C. spinescens* Sieb. ex DC. (White 1917). He later coined the manuscript name '*Cryptandra ramosissima*' for that taxon, but never published this species. His manuscript description is attached to sheet BRI AQ109442. Since then, specimens at BRI were housed under the phrase name '*Cryptandra* sp. Q4 (*ramosissima* C.T. White ms)'. Stanley and Ross (1986) used the name *Cryptandra* sp. 1 for that taxon and *C. propinqua* for the remainder.

Bean (2004) accepted three species in the *C. propinqua* complex in Queensland. He named a very distinct species, which is allied to *C. propinqua* as *C. ciliata*. It was first collected in the 1960s and occurs in the area west of Theodore in south-eastern Queensland. Botanists at BRI referred to it tentatively as '*Cryptandra* sp. Q3 (aff. *propinqua*)'. Bean named White's coastal species as *C. rigida* and used the name *C. propinqua* for an inland entity, which has its main area of distribution in the district of Maranoa and the western Darling Downs.

However, *Cryptandra rigida* from the Queensland coast is indistinguishable from *C. propinqua* from coastal New South Wales; as such, *C. rigida* is a new synonym of *C. propinqua*. The taxon that Bean (2004) referred to as *C. propinqua* is an inland form of *C. propinqua*, and particular to southern Queensland. It is here described as *C. propinqua* subsp. *maranoa*. *Cryptandra speciosa* from the New South Wales Tablelands is described in this paper after being identified by Cunningham 180 years ago. A taxon close to *C. speciosa* from the districts of Leichhardt and South Kennedy in Queensland is described as *C. speciosa* subsp. *strigosa*.

The species *C. ciliata* from south-eastern Queensland is accepted and *C. magniflora* from the mallee regions of South Australia, Victoria and New South Wales is re-instated. Key characters of the four species are listed in Table 1.

TAXONOMY

Key to *Cryptandra propinqua* and allied species

1 Stipule apices attenuate; hypanthium tube 0.7–1.2 mm long, petals 0.7–0.8 mm long, stamens 0.5–0.7 mm long; floral bracts papery with margins reflexed and flexuous cilia 0.3–0.6 mm long; fruit torus in upper half ..... 4. ***C. ciliata***

1: Stipule apices acute; hypanthium tube 1.2–3.5 mm long, petals (0.7–) 0.9–1.6 mm long, stamens (0.6–) 0.8–1.5 mm long; floral bracts with flat margins and regular cilia (i.e., parallel and straight or slightly curved), cilia 0.1–0.3 mm long; fruit torus equatorial or in lower half **2**

2 Leaves subsessile; bracts acuminate; adaxial surface of bracts and stipules with coarse simple hairs ..... 3. ***C. magniflora***

2: Leaf petioles apparent, (0.1–) 0.2–0.8 mm long; bracts obtuse and glabrous adaxially; stipules glabrous adaxially **3**

3 Stem indumentum of dense stellate hairs, with very few simple hairs; bracts light brown, obovate to elliptic; hypanthium tube 1.2–2.5 mm long ..... 1. ***C. propinqua***

3: Stem indumentum of antrorse, moderate to dense, closely appressed simple hairs, sometimes also with sparse stellate hairs underlying; bracts dark brown to black, broadly ovate to broadly elliptic; hypanthium tube 2.2–3.5 mm long ... 2. ***C. speciosa***

1. ***Cryptandra propinqua*** A. Cunn. ex Fenzl *in* S.F.L. Endlicher *et al.*, *Enum. Pl.* 23 (1837). *Type citation*: 'New South Wales (Cunningham)'. *Holotype*: New South Wales, 1825, *A. Cunningham 22* (W *n.v.*, photo seen).

Shrub 0.2–1.5 m high, often intricately branched, not spinescent, with a dense grey indumentum of stellate hairs and sometimes also simple hairs on young stems; leaves clustered in fascicles. *Stipules* persistent, narrowly triangular, 0.9–1.5 (–2) mm long, apex acute, connate around the base of the petiole; abaxial side moderately pubescent or glabrous; adaxial side glabrous. *Petioles* 0.1–0.8 mm long. *Leaf blades* narrowly elliptic to linear, sometimes ovate to broadly ovate, 0.8–5 (–11) mm long, 0.4–1.7 (–2.2) mm wide, entire; margins revolute; base cuneate or obtuse; apex acute, obtuse or occasionally shortly mucronate; lower surface partly visible or not visible, densely grey-stellate-hairy, sometimes glabrescent, midrib with simple hairs; upper surface glabrous, smooth or often tuberculate. *Conflorescences* axillary, 1–2 cm long, consisting of 1–10 sessile to shortly pedicellate flowers arranged in few branched elongated pseudoracemes; axes densely stellate-pubescent. *Bracts* 5–11, persistent, obovate or elliptic, 1.3–4.2 mm long, 0.9–2 mm wide, apex obtuse, light brown; abaxial surface with few hairs or glabrous; adaxial surface glabrous; cilia regular, 0.1–0.3 mm

Table 1. Key characters distinguishing the species of the *Cryptandra propinqua* complex.

	C. ciliata	*C. propinqua*	*C. speciosa*	*C. magniflora*
Distribution	Qld (Districts Darling Downs and Leichhardt)	Coastal regions of N.S.W. and south-eastern Qld (subsp. *propinqua*); inland regions of southern Queensland (subsp. *maranoa*)	N.S.W. Tablelands (subsp. *speciosa*); Districts Leichhardt and South Kennedy, Qld (subsp. *strigosa*)	Mallee regions of S.A., Vic. and N.S.W.
Indumentum of young stems	Small stellate hairs underlying coarse, antrorse simple or multiarmed hairs that spread about 30 degrees to stem	Dense stellate hairs, some have very few simple hairs	Antrorse, closely appressed, moderate to dense simple hairs, subsp. *speciosa* also with sparse stellate hairs	Intertwined, matted or loosely appressed fine stellate and simple hairs
Leaf surface	Smooth or tuberculate	Smooth or often tuberculate	Smooth	Smooth or tuberculate
Stipule apex	Attenuate	Acute	Acute	Acute
Petiole	Sessile–subsessile, 0.1–0.3 (–0.5) mm	0.1–0.8 mm	0.2–0.7 mm	Sessile–subsessile, 0–0.2 mm
Bract shape	Broadly obovate or orbicular	Obovate / elliptic	Broadly ovate / broadly elliptic	Ovate / elliptic, rarely obovate
Bract colour	Light brown	Light brown	Dark brown to black	Dark brown to black
Bract apex	Obtuse	Obtuse	Obtuse	Acuminate
Bracts and stipules, adaxial indumentum	Glabrous	Glabrous	Glabrous	Coarse simple hairs
Bract cilia	Long flexuose	Short regular	Short regular	Short regular
Bract abaxial indumentum	±Glabrous	±Glabrous	Often hairs on upper middle or glabrous	Usually on upper middle
Hypanthium tube length	0.7–1.2 mm	1.2–2.5 mm	2.2–3.5 mm	1.5–2.6 mm
Hypanthium tube indumentum	Upper 1/2 to 1/5 hairy	Upper 1/2 to 1/3 hairy	All hairy, on some upper 1/2 hairy	All hairy
Hypanthium tube hair types	Dense stellate	Sparse to dense stellate	Simple (mostly at top) and sparse to rarely dense stellate	Simple at top, mostly dense stellate
Sepal length	1.5–2.2 mm	2.0–3.4 mm	2.2–4.0 mm	1.8–3.5 mm
Sepal indumentum	Densely stellate hairy, very few simple hairs at apex	Dense simple at apex and dense to moderately simple hairy in middle, rest sparse to dense stellate hairy	Dense simple hairs overlying sparse stellate hairs	Dense simple hairs with dense stellate hairs
Petal length	0.7–0.8 mm	0.7–1.4 mm	1.0–1.6 mm	0.9–1.5 mm
Stamen length	0.5–0.7 mm	0.6–1.1 mm	0.9–1.5 mm	0.8–1.4 mm
Style indumentum	Glabrous	Lower 1/4 to 1/3 hairy	Base to lower 1/3 hairy	Glabrous or hairy at base
Style length	0.7–1.1 mm	0.5–3.7 mm	2.6–3.7 (–5) mm	1.7–2.6 mm
Fruit length	2.7–3.0 mm	2.5–3.5 mm	3.0–4.0 mm	2.8–3.0 mm
Torus position	Upper half	Lower half or equatorial	Equatorial or lower half	±Equatorial

long. *Pedicels* 0–1.1 mm long, densely pubescent. *Flowers* white or cream, sometimes pinkish with age. *Hypanthium* tubular, tube 1.2–2.5 mm long, 1.3–2.4 mm wide; upper 1/2 to 1/3 of tube covered with sparse to dense stellate hairs. *Sepals* erect or spreading, 2–3.4 mm long, with an indumentum of sparse to dense simple and stellate hairs, simple hairs mainly at apex and midrib. *Petals* erect, 0.7–1.4 mm long; claw short or absent, 0–0.2 mm long. *Stamens* erect, 0.6–1.1 mm long; anthers 0.3–0.4 mm long. *Disc* a sinuate ring, densely stellate-pubescent. *Ovary* inferior to semi-inferior, 3-carpellate; summit densely stellate-hairy. *Style* 0.5–3.7 mm long, lower 1/4 to 1/3 hairy; stigma minutely 3-lobed. *Schizocarp* obovoid or ellipsoid, 2.5–3.5 mm long, brown, splitting into 3 dehiscent fruitlets; apex acute or obtuse, torus position in lower half or equatorial. *Seeds* 0.8–1.9 mm long, reddish-brown, somewhat darker in middle, base dark brown; aril pale yellow-translucent.

Typification: The holotype (Fig. 1) consists of two flowering branches. This sheet is the only Cunningham collection of the species that could be traced at W, which is annotated by Fenzl. It also bears a label in Cunningham's hand. The remaining original collections (listed below) bear more exact information about the collecting locality, e.g., the hills around the Hunters River near Sydney. These specimens were most likely collected during Cunningham's expedition to the Liverpool Plains in 1825 (Curry et al. 2001).

Notes and affinities: This species can be distinguished from *C. speciosa* by its light brown bracts, the shorter hypanthium tube, and a stem indumentum of dense stellate and occasional simple hairs. It is closely related to *C. ciliata* with which it shares the light brown bracts.

Schlechtendal (1847) misapplied the name *C. propinqua* to a collection of *C. tomentosa* Lindl. by H. Behr from South Australia. Bentham (1862) and *Index Kewensis* attribute the species to that author and quote it as '*C. propinqua* Schltdl.'; however, this is incorrect.

Original collections: **NEW SOUTH WALES.** 'On barren rocky hills on the north western branches of the Hunters' River', Apr. 1825, *A. Cunningham 22* (BM 50748, left specimen); Hunters River, May 1825, *A. Cunningham 22* (K ex herb. Robert Heward, top specimen of sheet with loan stamp 'H/1310/95 54/76'). N.S.W., *s. dat.*, *A. Cunningham s.n.* (MEL 238175).

Key to subspecies of *Cryptandra propinqua*

1 Stem hairs stellate with occasional simple hairs; stipules glabrous or sparsely hairy; leaves with revolute margin, but lower surface usually visible; bracts not covering sepals, entire; sepals with stellate and simple hairs, especially along midrib; style (1.5–) 1.7–3.7 mm long; coastal regions of NSW and Qld ..... 1a. subsp. ***propinqua***

1: Stem hairs intertwined stellate and simple hairs; stipules hairy at least on midrib; leaves with margins closely revolute, lower surface not visible; bracts partly hiding sepals, very fragile and easily torn; sepals with small dense appressed stellate and long simple hairs; style 1.5–1.8 mm long; Qld, Maranoa district and adjacent regions .... 1b. subsp. ***maranoa***

1a. ***Cryptandra propinqua*** A. Cunn. ex Fenzl subsp. ***propinqua***

Cryptandra rigida A.R. Bean, *Austrobaileya* 6: 927 (2004). *Holotype*: Qld, Burnett District, "Cooya", W of junction of Barambah and Boonara Creeks, 17 July 1996, *P. Grimshaw 2486 & R. Price* (BRI AQ641398). *Isotype*: MEL 2263653.

Cryptandra sp. 1 *sensu* T.D. Stanley & E.M. Ross, *Fl. S.E. Queensl.* 2: 46 (1986)

Cryptandra propinqua A. Cunn. ex Fenzl *sensu* G.J. Harden, *Fl. N.S.W.* 1: 371 (1990), *pro parte.*

Cryptandra sp. (Ngungun *L.S. Smith 13973*) *sensu* A.R. Bean *in* R.J.F. Henderson, *Names distrib. Queensl. pl. algae lich.* (2002)

'*Cryptandra* sp. Q4 (*ramosissima* C.T. White ms)' (BRI herbarium phrase name).

Cryptandra spinescens auct. non Sieber ex DC.: C.T. White, *Queensland Naturalist* 2: 65 (1917).

Illustrations: S.G.A.P, Logan River Branch, *Mangroves to mountains* 103 (2002), photograph, as *Cryptandra* 'sp. Ngungun'; A.R. Bean, *Austrobaileya* 6: 927, Fig. 4 (2004), photograph, as *C. rigida*.

Shrub 0.2–1.5 m high; young branches with a dense grey indumentum of short stellate hairs, sometimes with sparse simple hairs. *Stipules* 1–1.5 mm long, glabrous or sparsely hairy. *Petiole* 0.2–0.8 mm long. *Leaf blades* narrowly elliptic to ovate or broadly ovate, (1.0–) 1.5–5 (–11) mm long, 0.4–1.7 (–2.2) mm wide; margins revolute, but lower surface usually visible. *Bracts* 6–11, 1.3–3.6 mm long, 0.9–2 mm wide, covering hypanthium tube, entire. *Pedicels* 0.3–1.1 mm long. *Hypanthium* tube 1.2–2.5 mm long, 1.3–2.4 mm wide. *Sepals* 2–3.3 mm long, with dense

simple hairs at the apex, dense to moderately dense simple hairs along the midrib, and sparse to dense stellate hairs on the rest of the sepal. *Petals* 1–1.4 mm long, claw c. 0.2 mm long. *Stamens* 0.8–1.1 mm long. *Style* (1.5–) 1.7–3.7 mm long. *Schizocarp* 2.5–3.2 mm long, torus position in lower half. *Seeds* 0.8–1.9 mm long. Figs 1, 2A.

Distribution and Habitat: The subspecies occurs between Bundaberg (Qld) and the area around Jervis Bay (N.S.W.), and grows in heathlands on rocky outcrops, hillsides or gullies; it is recorded from sandy soils or sandy loam on sandstone, and from granite and rhyolite at 120–800 m altitude. Fig. 3A.

Phenology: Flowers Apr.–Sep.; fruits May–Nov.

Notes: The recently published *Cryptandra rigida* from Queensland is conspecific with *C. propinqua* subsp. *propinqua*. Specimens with and without rigid habit can be found in Queensland and New South Wales. Other characters mentioned by Bean (2004) to be unique for *C. rigida* can be found in material of *C. propinqua* subsp. *propinqua* from New South Wales, such as branchlets with an indumentum of stellate hairs only, a glabrous calyx tube and a mostly stellate indumentum on the calyx lobes. However, they distinguish the typical subspecies from *C. propinqua* subsp. *maranoa* (see below). Some specimens from northern N.S.W. have a tendency to glabrescent or glabrous lower surfaces of the leaves.

Specimens examined: **NEW SOUTH WALES: Central Coast.** Parramatta River, Apr. 1903, *J.L. Boorman s.n.* (NSW); Londonderry, 4 Feb. 1962, *C. Burgess s.n.* (CBG at CANB); Blakehurst, Apr 1897, *J.H. Camfield s.n.* (NSW); Hurstville, Apr. 1898, *J.H. Camfield s.n.* (NSW); Como, May 1898, *J.H. Camfield s.n.* (NSW); Maroota, 31 May 1961, *E. Gordon s.n.* (NSW); Peats Ferry, Hawkesbury River, 14 May 1887, *J.H. Maiden s.n.* (NSW); Revesby to Georges River, 9 Apr. 1956, *K. Mair s.n.* (NSW). **North Coast.** 1 km NE of Nymboida, 25 Apr. 1994, *A.R. Bean 7647* (BRI); Grafton-Glenreagh road, near Mt Kremnos, 5 Mar. 1997, *A.R. Bean 11719* (BRI); Mt Mullengen 4 miles [6 km] E of Ramornie, July 1922, *W.F. Blakely & D.W.C. Shiress s.n.* (NSW); Orara River, 10 miles [16 km] S of Ramornie, July 1922, *W.F. Blakely & D.W.C. Shiress s.n.* (NSW); Shore of Port Macquarie, 1819, *A. Cunningham 16* (CBG at CANB); Rocky Creek, 30 km N of Grafton on road to Coaldale, 23 Aug. 1985, *D.B. Foreman 921* (MEL); Alum Mountain, Apr. 1924, *H.M.R. Rupp s.n.* (NSW); Bulahdelah, Apr. 1924, *H.M.R. Rupp s.n.* (NSW). **South Coast.** Jervis Bay, 1 Sep. 1977, *G.W. Althofer 6247* (NSW); Swan Lake, Cudmirrah, 20 miles [32 km] S of Nowra, 14 Apr. 1967, *E.F. Constable 7371* (NSW); Budawang Range, N of Currockbilly Mountain, 20 Sep. 1967, *E.F. Constable 7458* (NSW); Yalwal Road near Nowra, Aug. 1922, *F.A. Rodway 1394* (NSW); Sassafras, 11 May 1946, *F.A. Rodway 14168* (NSW); Cross Road, Tomerong to Turpentine, S of Nowra, 30 May 1934, *J. Rodway 1397* (NSW). **QUEENSLAND: Burnett.** 'Melrose', 15 km W of Eidsvold, 15 Sep. 1990, *A.R. Bean 2292* (BRI); State Forest 132, 9 km ESE of Brovinia, 7 June 1997, *A.R. Bean 12037* (BRI); Mount Lorna, 3 km W of 'Toondahra', 3 Aug. 1988, *P.I. Forster PIF4637* (BRI); 5.5 km W of 'Toondahra', 5 Apr. 1988, *P.I. Forster PIF4672* (BRI, MEL); 'Cooya', E of Boonara Creek, 17 July 1996, *P. Grimshaw PG2492* (BRI); Campbell Creek, W of Mt Brian, 5 Nov. 1996, *P. Grimshaw PG2621* (BRI); Timber Reserve 766, Abercorn, June 1971, *G. Leiper s.n.* (BRI). **Moreton.** Top of Glass House, *s. dat., F.M. Bailey 6* (BRI, MEL); Mount Edwards, near Aratula, 19 June 1990, *A.R. Bean 1636* (BRI); Mt Tunbubudla, W of Beerburrum, 17 May 1993, *A.R. Bean 6047* (BRI); near Picnic Creek and Surprise Rock, Lamington, 26 Apr. 1958, *S.T. Blake 20357* (BRI); NW of Ngungun, Glasshouse Mountains, 21 May 1985, *A.M. Buchanan 6714* (HO); Turtle Rock, 15 June 1966, *H.S. Curtis 292* (BRI); Rupari Hill, 1.8 km SW of Beerwah, 16 Apr. 1973, *R. Dowling 15* (BRI); Mountain behind Esk, 12 July 1985, *P.I. Forster PIF2055 & P.D. Bostock* (BRI); Summit of Mt Bangalora, 6 May 1990, *P.I. Forster PIF6785, L.H. Bird & A.R. Bean* (BRI); Mt Edwards Nat. Park, 14km W of Boonah, 16 Sep. 1992, *P.I. Forster PIF11467 & R. Reilly* (BRI); Campbells Folly, 4km SW of Tylerville, 19 Sep. 1992, *P.I. Forster PIF11508 & G. Leiper* (BRI, MEL); Mt Ernest, 24 Apr. 1993, *P.I. Forster PIF13256 & G. Leiper* (BRI, CANB, NSW); Coochin Hills, Beerwah, stony section on top of the hill, 3 June 1967, *J.D. Hockings s.n.* (BRI); Mt Esk, approx 4 km NE of Esk on lower slopes, 20 May 1973, *F.D. Hockings s.n.* (BRI); Mount Edwards, near Moogerah Dam, Sep. 1990, *G. Leiper s.n.* (BRI); Plunkett, Timber Reserve 766, 10 Nov. 1990, *G. Leiper s.n.* (BRI); Glen Rock, Esk, *s. dat., G. Leiper s.n.* (BRI); Glen Rock, 9 Aug. 1988, *E.M. Ross & P.I. Forster s.n.* (BRI, NSW); Moonview Treviot Gorge, 4 Apr. 1999, *M.J. Russel s.n.* (BRI); Mt Edwards, 1 June 1938, *E.J. Smith s.n.* (BRI); Mt Gillies, 20 km SW of Rathdowney on Mt Lindsay Hwy, 13 Oct. 1974, *P. Sharpe 1105* (BRI); Mt Esk, *s. dat., J. Shirley s.n.* (BRI); Ngungun, half way up S track of fairly flat shoulder, 8 July 1968, *L.S. Smith 13972* (BRI); NE

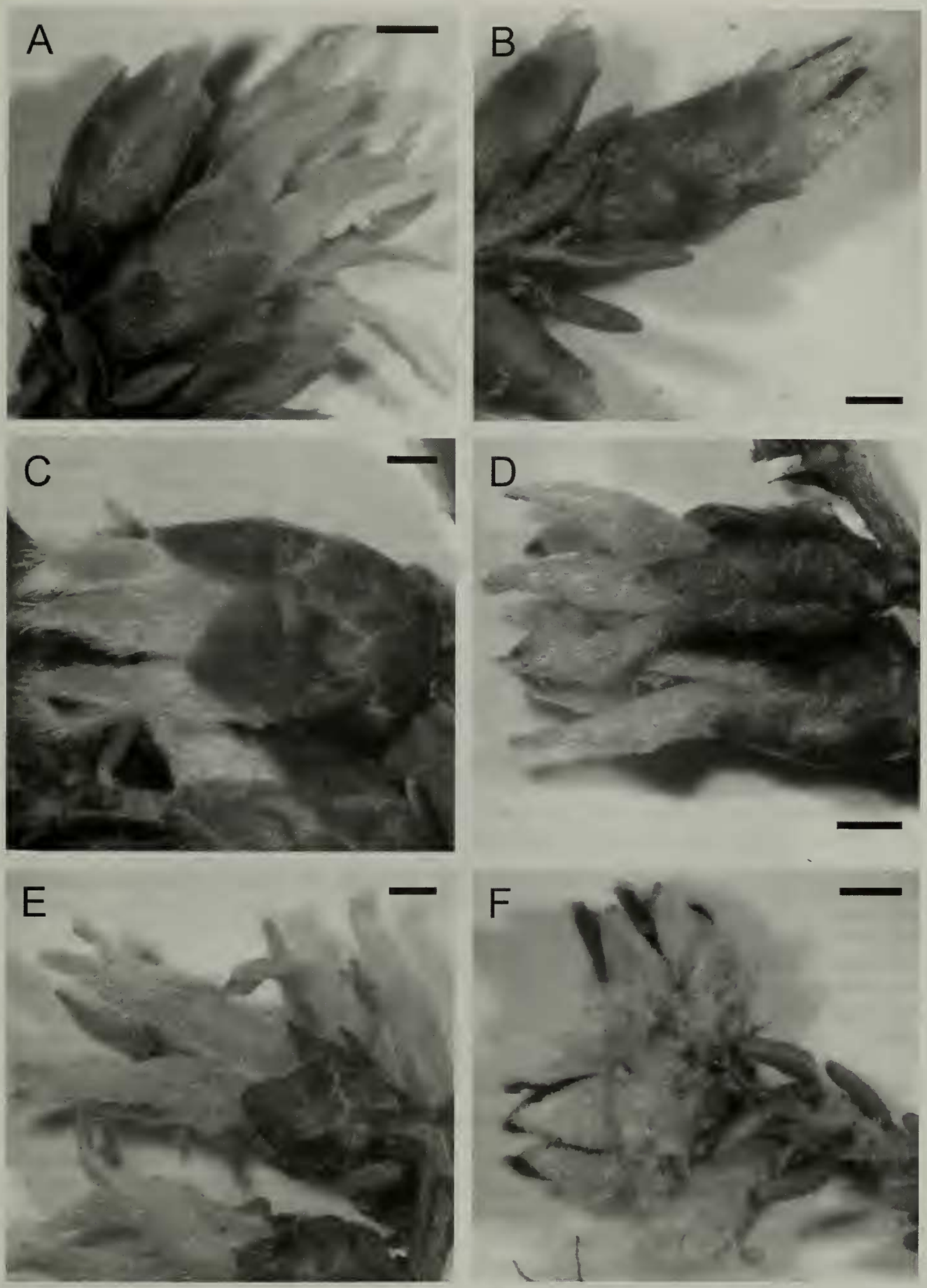

Figure 2. Flowers of taxa in the *Cryptandra propinqua* complex. A, *C. propinqua* subsp. *propinqua* (*A.R. Bean 12037*); B, *C. propinqua* subsp. *maranoa* (*D.M. Gordon 35*); C, *C. speciosa* subsp. *speciosa* (*L.A.S. Johnson 7840*); D, *C. speciosa* subsp. *strigosa* (*E. McRobert s.n.*); E, *C. magniflora* (*N.G.Walsh 5090*); F, *C. ciliata* (*V. Hando 214*). All scale bars 1 mm.

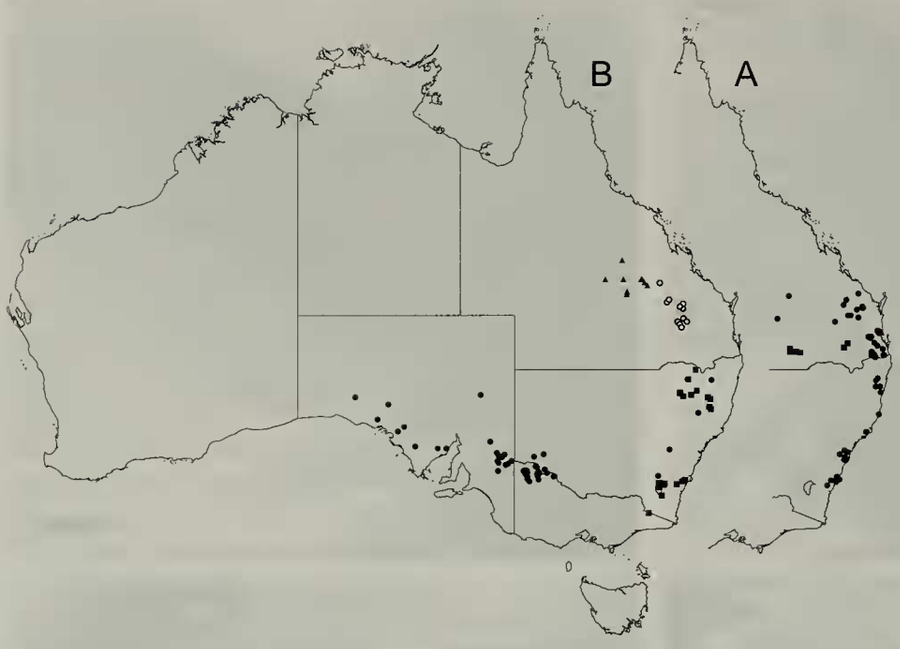

Figure 3. Distribution map for taxa in the *Cryptandra propinqua* complex. A, *C. propinqua* subsp. *propinqua* (circles), *C. propinqua* subsp. *maranoa* (squares); B, *C. speciosa* subsp. *speciosa* (squares), *C. speciosa* subsp. *strigosa* (triangles), *C. ciliata* (open circles), *C. magniflora* (circles).

corner of Ngungun below summit basin, 8 July 1968, *L.S. Smith 13973* (BRI, NSW, MEL); Coochin Hills near summit of W peak on N side, 24 Aug. 1968, *L.S. Smith 14045* (BRI, CANB, NSW); Woodford, Glasshouse Mts, 6 June 2002, *J. Thompson 57* (BRI); between Plunkett and Hopedale, 26 Aug. 1923, *C.T. White s.n.* (BRI); Glasshouse Mountains, May 1910, *C.T. White s.n.* (BRI); White Rock, S of Redbank Plains, 8 June 1984, *K.A. Williams 8043* (BRI). **Wide Bay.** 1.5 km SSE of Biggenden Bluff, 1 Sep. 2002, *A.R. Bean 19229* (BRI); Summit of Mt Walsh, near Biggenden, 17 Sep. 1983, *T. Bean s.n.* (BRI); Head of Stoney Creek, NW Boundary of Mt Walsh NP, 31 Oct. 1995, *P. Grimshaw PG2224 & R.J. Price* (BRI); The Gorge, Biggenden Bluff, *s. dat.*, *C.T. White 7687* (BRI).

1b. ***Cryptandra propinqua*** subsp. ***maranoa*** Kellermann & Udovicic, subsp. nov.

A subspecie typica indumento caulium pilis stellatis simplicibusque dense-implicatis compositis, foliis linearibus margine arcte revoluto, bracteis marginibus fragilibus hypanthio sepalisque partim tegentibus, stylo breviore differt.

Holotype: Qld, Maranoa District, St. George, 21 July 1949, *D.M. Gordon 35* (BRI AQ109430).

Cryptandra propinqua subsp. *propinqua auct. non* A. Cunn. ex Fenzl: T.D. Stanley & E.M. Ross, *Fl. S.E. Queensl.* 2: 46 (1986); A.R. Bean, *Austrobaileya* 6: 926 (2004).

Shrub 0.2–1 m high; young stems with dense intertwined or matted shorter and longer stellate hairs and occasional simple hairs. *Stipules* 0.9–1.5 (–2) mm long, pubescent at least on midrib. *Petiole* 0.1–0.4 mm long. *Leaf blades* narrowly elliptic to linear, 0.8–4 mm long, 0.4–0.6 mm wide; margins revolute, lower surface not visible. *Bracts* 5–10, 2.2–4.2 mm long, 1.5–2 mm wide, very fragile and easily torn, covering hypanthium tube and at least part of sepals. *Pedicels* 0–0.3 mm long. *Hypanthium* tube 1.3–2.2 mm long, 1.5–2 mm wide. *Sepals* 2.2–3.4 mm long, with small dense appressed stellate and long simple hairs along midrib and apex. *Petals* 0.7–1 mm long, claw absent. *Stamens* 0.6–0.9 mm long. *Style* 0.5–1.8 mm long. *Schizocarp* c. 3.5 mm long (2.8–4 mm according to Bean 2004), torus position ±equatorial. *Seeds* not seen. Figs 2B, 4.

Distribution and Habitat: The subspecies grows in open woodlands with cypress pine (*Callitris* spp.) or *Angophora floribunda* on sand, sandy loam and sandstone in inland regions of southern Queensland. Fig. 3A.

Phenology: Flowers recorded in May, July and Aug.; fruits recorded in July

Etymology: The subspecific epithet refers to the Queensland district of Maranoa, since the new subspecies occurs in this district and adjacent regions. 'Maranóa' was the aboriginal name for the Maranoa River, which was retained by Mitchell when he discovered it in 1846 (Mitchell 1848); the district is named after the river. (Although the epithet has the form of a feminine Latin adjective, it is derived from English and does not have any meaning in Latin.)

Notes: The taxon differs from the typical subspecies in having long, intertwined stellate and simple hairs

Figure 4. Holotype of *Cryptandra propinqua* subsp. *maranoa* Kellermann & Udovicic. *D.M. Gordon 35* (BRI).

on the stem, very closely revolute, linear leaves, floral bracts with fragile margins that cover the hypanthium tube and part of the sepals, long simple hairs overlying small dense appressed stellate hairs on the sepals, and a shorter style.

Specimens examined: **QUEENSLAND: Darling Downs.** Barakula, 1959, *D.M. Cameron QFD No. 59/272* (BRI); Brigalow logging area, 25 June 1997, *W. Drury 5* (BRI); near Nudley Tower, Barakula State Forest, 27 July 1981, *V. Hando 213* (BRI); Cecil Plains, June 1962, *F.D. Hockings s.n.* (BRI). **Maranoa.** Mt Moffatt Nat. Park, 1 May 1997, *E. Addicott MM45* (BRI, NSW); Bollon and St George, 21 July 1949,

G.W. Althofer 31 (BRI); 87 km from Bollon on road to St George, 17 Aug. 1979, *F. McKenzie CT22* (BRI); 15 miles [25 km] from St George, along Bollon Rd, 25 Aug. 1961, *M.E. Phillips s.n.* (CBG at CANB). **Warrego.** Near Boudens Dam, Chesterton Range, 14 Aug. 2001, *C. Dollery 280* (BRI).

2. ***Cryptandra speciosa*** A. Cunn. ex Kellermann & Udovicic, sp. nov.

A *Cryptandra propinqua* A. Cunn. ex Fenzl bracteis fuliginosis ovatis-ellipticis et saepe paginis abaxialis pubescentibus, pilis caulium simplicibus antrorsis, hypanthio longiore differt.

Holotype: N.S.W., Northern Tablelands, Mt Kaputar Nat. Park, summit area of The Governor, 15 Sep. 1998, *B.J. Mole 56 & W.A. Gebert* (MEL 2071544). *Isotypes*: NSW 501107 *n.v.*, NE 75406 *n.v.*

Shrub 0.4–2 m high, not spinescent, with a moderate to dense grey indumentum of antrorse, closely appressed simple hairs overlying sparse small stellate hairs on young stems; leaves usually clustered in fascicles. *Stipules* persistent, triangular, 1.1–2 (–2.5) mm long, apex acute, connate around the base of the petiole; abaxial side moderately pubescent, especially at midrib; adaxial side glabrous. *Petioles* 0.2–0.7 mm long. *Leaf blades* linear to narrowly elliptic, (1.5–) 2.6–5.1 (–8) mm long, 0.4–0.8 (–2.8) mm wide, entire; margins revolute; base cuneate or obtuse; apex acute or obtuse, sometimes shortly mucronate; lower surface usually not visible, densely grey-stellate-hairy, rarely becoming glabrous, midrib with simple hairs; upper surface glabrous, smooth. *Conflorescences* axillary, 1–2 cm long, consisting of 1–10 almost sessile flowers arranged in few branched elongated pseudoracemes; axes densely stellate-pubescent. *Bracts* 6–10, persistent, broadly ovate or broadly elliptic, 1.4–4.6 mm long, 1.5–2.5 mm wide, apex obtuse, dark brown to black; abaxial surface often with hairs in the upper middle or glabrous; adaxial surface glabrous; cilia regular, usually dense, (0.2–) 0.3 (–0.5) mm long. *Pedicels* 0.2–1 mm long, densely pubescent. *Flowers* white. *Hypanthium* tubular, tube 2.2–3.5 mm long, 1.8–3.1 mm wide; the whole tube or at least the upper half covered with simple hairs (mostly towards the sepals) overlying sparse to rarely dense stellate hairs. *Sepals* erect or spreading, 2.2–4 mm long, with an indumentum of dense simple hairs overlying sparse stellate hairs. *Petals* erect, 1–1.6 mm long; claw 0.1–0.4 mm long. *Stamens* erect, 0.9–1.5 mm long; anthers 0.4–0.6 (–0.7) mm long. *Disc* a sinuate ring, densely stellate-pubescent. *Ovary* inferior to semi-inferior, 3-carpellate; summit densely stellate-hairy. *Style* 2.6–3.7 (–5) mm long, base to lower 1/3 hairy; stigma minutely 3-lobed. *Schizocarp* obovoid or ellipsoid, 3–4 mm long, brown, splitting into 3 dehiscent fruitlets; apex acute or obtuse, torus equatorial or in lower half. *Seeds* 2.1–2.5 mm long, brown with a dark base; aril pale yellow-translucent.

Etymology: The epithet is derived from the Latin *speciosus* (showy, splendid) and was applied to the species by Cunningham, presumably because of its conspicuous white and large-flowered conflorescences.

Typification: There are several original collections of Cunningham available (see below), which were all collected in 1827 during the expedition that led to the discovery of the Darling Downs. Although we are using Cunningham's manuscript name for the species, we do not typify the taxon with one of his collections, since there are better and more recent collections available. We choose a collection from Mt Kaputar National Park of which there are specimens at three Australian herbaria. Cunningham also passed Mt Kaputar while he was on the 1827 expedition (McMinn 1970).

Notes and affinities: The species is closely related to *C. magniflora* and is readily recognised by its dark brown to black floral bracts and the usually densely hairy flowers. The two subspecies of *C. speciosa* are separated by c. 500 km.

Original collections: **NEW SOUTH WALES.** 'New South Wales, frequent in the interior', 1827, *A. Cunningham 24* (BM 50748, right specimen); 'A shrub of rigid habit frequent in the barren rocky situations in various parts of the Interior from the latitudes of 29 to 33 S. & Long. 151–148, flowering usually in May or June', [1827,] *A. Cunningham 24* (BM 50750); 'New South Wales, Interior', May 1827, *A. Cunningham 24* (BM 50753, bottom left specimen); 'N. S. Wales, Interior, Lat 29 S Long. 151', May 1827, *A. Cunningham 24* (BRI AQ109433); 'N Holld.' , *s. dat.*, *A. Cunningham s.n.* (MEL 2103518 ex Herb. Hooker).

Key to subspecies of *Cryptandra speciosa*

1 Stem with stellate and appressed simple hairs; bracts 2.1–4.6 mm long, 1.8–2.5 mm wide; pedicels 0.5–1 mm long; sepals 2.6–4 mm long, with long simple hairs overlying stellate hairs; petals 1.2–1.6

mm long; stamens 1–1.5 mm long; fruit 3.6–4 mm long, torus position equatorial; N.S.W. Tableland and Western Slopes ..... 2a. subsp. ***speciosa***

1: Stem with simple, antrorse, appressed hairs, rarely stellate hairs present; bracts 1.4–2.7 mm long, 1.5–1.6 mm wide; pedicels 0.2–0.3 mm long; sepals 2.2–2.8 mm long, with long simple hairs and very few stellate hairs; petals 1–1.1 mm long; stamens 0.9–1 mm long; fruit 3–3.5 mm long, torus position in lower half; Qld, Leichhardt and South Kennedy districts ..... 2b. subsp. ***strigosa***

2a. ***Cryptandra speciosa*** A. Cunn. ex Kellermann & Udovicic subsp. ***speciosa***

Cryptandra propinqua var. *grandiflora* Benth., *Fl. Austral.* 1: 442 (1863), *pro parte.*

Cryptandra propinqua auct. non A. Cunn. ex Fenzl: N.T. Burbidge & M. Gray, *Fl. A.C.T.* 252 (1970); N.C.W. Beadle, *Stud. fl. N.E. N.S.W.* 4: 518 (1980); G.J. Harden, *Fl. N.S.W.* 1: 371 (1990), *pro parte.*

Illustration: N.C.W. Beadle, *Students flora of north eastern New South Wales* 4: 519, Fig. 226 F4 (1980); G.J Harden, *Flora of New South Wales* 1: 371 (1990); both as *C. propinqua.*

Shrub 0.4–1.5 m high, young stems with antrorse, appressed simple and small stellate hairs. *Stipules* 1.1–2 mm long. *Petioles* 0.2–0.7 mm long. *Leaf blades* 2.5–5.1 mm long, 0.4–0.8 mm wide. *Bracts* 6–10, 2.1–4.6 mm long, 1.8–2.5 mm wide, cilia (0.2–) 0.3 (–0.5) mm long. *Pedicels* 0.5–1 mm long. *Hypanthium* 2.3–3.5 mm long, 1.8–3.1 mm wide. *Sepals* 2.6–4 mm long, with an indumentum of long simple hairs overlying stellate hairs. *Petals* 1.2–1.6 mm long. *Stamens* 1–1.5 mm long; anthers (0.4–) 0.5–0.6 (–0.7) mm long. *Style* 2.6–3.6 (–5) mm long. *Schizocarp* 3.6–4 mm long, torus position equatorial. *Seeds* c. 2.5 mm long. Figs 2C, 5.

Distribution and habitat: The subspecies grows in *Eucalyptus* woodlands and cypress (*Callitris* spp.) forests, on rocky slopes and ridges or the rims of gorges in the Tablelands of New South Wales and the Victorian alps near the border to N.S.W., in sandy soil over sandstone or volcanic substrates. It is recorded between 500–1380 m altitude. Fig. 3B.

Phenology: Flowers May, July–Oct.; fruits Sep.–Nov.

Notes: Specimens collected around Canberra have slightly larger flowers, but in every other aspect they are typical for *C. speciosa* subsp. *speciosa.*

Specimens examined: **AUSTRALIAN CAPITAL TERITORRY.** Flints Crossing, Paddys River, 8 Sep. 1963, *E. D'Arnay 278* (CANB, NSW); Uriarra Crossing, 23 Aug. 1964, *J. Beeton s.n.* (CBG at CANB); Paddys River, 18 Sep. 1981, *E.M. Canning 5045 & M.C. Johnson* (CBG at CANB); Murrumbidgee River, 16 Aug. 1950, *E. Gauba s.n.* (CBG at CANB); Molonglo River, 27 Sep. 1953, *E. Gauba s.n.* (AD, CBG at CANB); Kowen, 8 Sep. 1962, *H.S. McKee 9568* (NSW); above Paddys River, 0.5 km E of Murrays Corner, 1 Sep. 1983, *J.E. Ward 28 & A. Hughes* (CBG at CANB). **NEW SOUTH WALES: Central Tablelands.** Bathurst Plains, *s. dat., s. coll.* (NSW). **Northern Tablelands.** Apsley Falls, 21 Oct. 1900, *E. Cheel s.n.* (NSW); Tia Falls, Oct. 1900, *E. Cheel s.n.* (NSW); between Jokers Spring and English Spring, Mt Kaputar Nat. Park, 19 Nov. 1976, *R. Coveny 8826 & S.K. Roy* (NSW); Gara River, 9 miles [14 km] E of Armidale, 2 Oct. 1955, *G.L. Davis s.n.* (NSW); Dundee, June 1963, *E.A. Farleigh s.n.* (NSW); Apsley Falls, Oct. 1900, *W. Forsyth s.n.* (NSW); Yarrowyck-Bundarra, Sep. 1947, *L.A.S. Johnson 947/28* (NSW); Plains of Heaven, 3km SSW of Mt Kaputar, 1 Sep. 1974, *L.A.S. Johnson 7840* (NSW); Dangar Falls, Armidale, 10 Sep. 1971, *E. McBarron 20300* (NSW); Mt Kaputar, Nandewar Range, E of Narrabri, 25 Aug. 1973, *B. Muffet M3/132* (CBG at CANB). **North Western Slopes.** Warialda, June 1905, *J.L. Boorman s.n.* (CANB); walk track to the 'Governor', Mt Kaputar Nat. Park, 27 Nov. 1987, *J.M. Fox 87/154* (CANB); Warialda, *s. dat., E.J. Hadlez s.n.* (NSW); SSE of Bowling Alley Point Cemetery, Sep. 1999, *J.R. Hosking 1745* (CANB, MEL, NE, NSW); Plagyan State Forest, 5 July 1985, *D.F. Mackay 278* (NSW); Woods Reef, Barraba, Oct. 1913, *H.M.R. Rupp 7085/13* (NSW). **Southern Tablelands.** Turpentine Ridge, 24 June 1962, *C. Burgess s.n.* (CBG at CANB); Queanbeyan, 12 Nov. 1996, *I. Crawford 4001* (CANB, MEL); Queanbeyan, Nov. 2000, *I. Crawford 4787* (CANB, MEL, NSW); Yass River, c. 1.5 km NE of Yass Post Office, 29 Aug. 1993, *B.J. Lepschi 1058* (A, CANB, HO, L); Queanbeyan, 17 Sep. 1960, *H.S. McKee 7258* (NSW); 2.5 km NW of Mt Tianjara, 30 Apr. 1981, *K. Paijmans 3971* (CANB); Murrumbidgee River, 2 km upstream from junction with Bredbo River, 27 July 1975, *M. Parris 7520* (CBG at CANB). **VICTORIA: Snowfields.** Snowy River above Willis, 29 June 1962, *K. Rogers s.n.* (MEL); Snowy River, 1.5 km downstream from Sandy Creek, 15 Oct. 1989, *J. Turner s.n.* (MEL).

Fig. 5. Holotype of *Cryptandra speciosa* A. Cunn. ex Kellermann & Udovicic. *B.J. Mole 56 & W.A. Gebert* (MEL).

2b. ***Cryptandra speciosa*** subsp. ***strigosa*** Kellermann & Udovicic, subsp. nov.

A subspecies typica caulibus maturis sine pilis stellatis sed tantum pilis simplicibus antrorsis adpressis, bracteis petalis et sepalis minoribus, fructibus minoribus toris in dimidio inferiore differt.

Holotype: Qld, Leichhardt District, Salvator Rosa Nat. Park, 170 km SW of Springsure, Aug. 1983, *M.B. Thomas 241* (BRI AQ367623).

Cryptandra propinqua subsp. *propinqua auct. non* A. Cunn. ex Fenzl: A.R. Bean, *Austrobaileya* 6: 926 (2004).

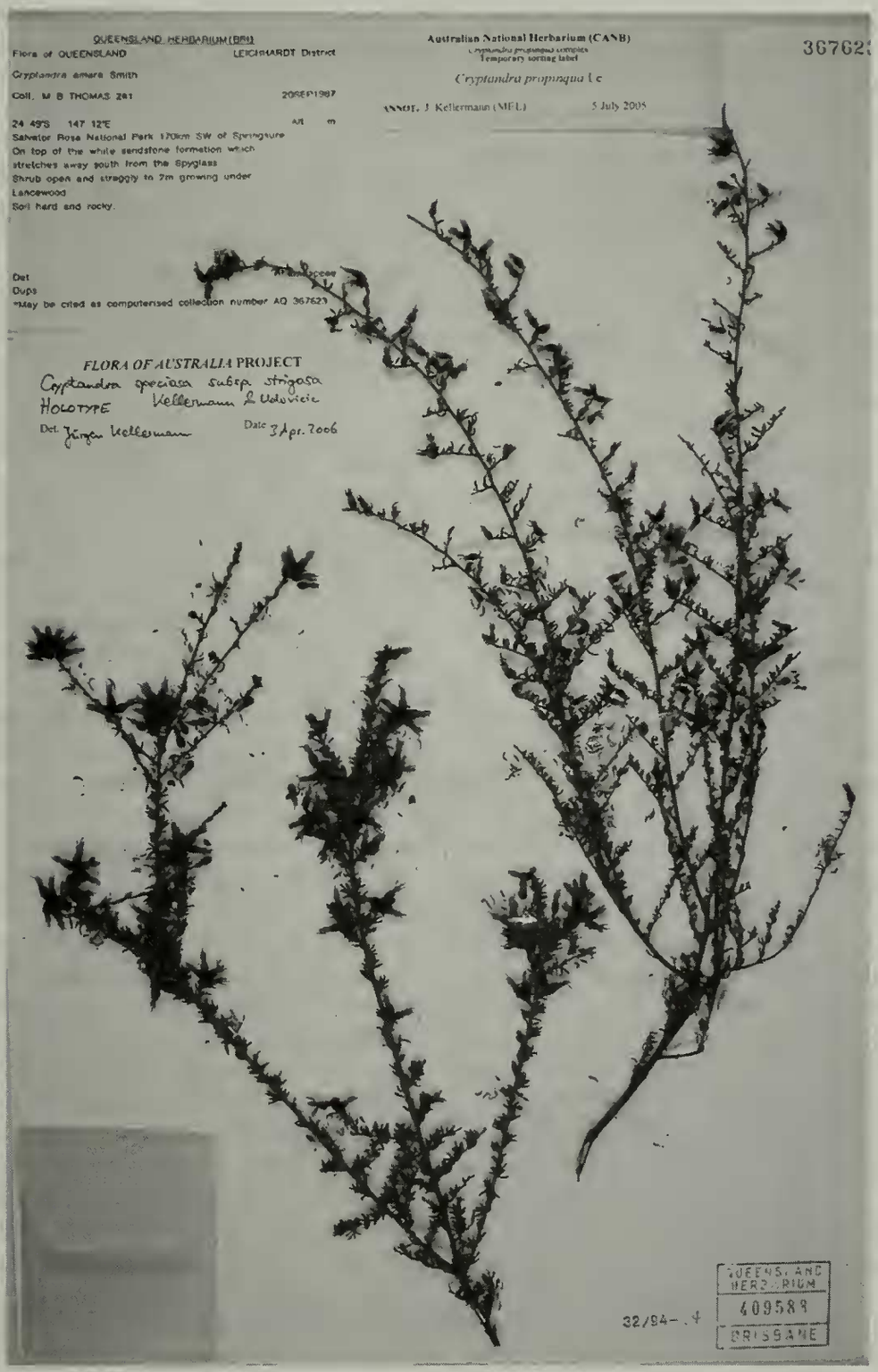

Fig. 6. Holotype of *Cryptandra speciosa* subsp. *strigosa* Kellermann & Udovicic. *M.B. Thomas 241* (BRI).

Shrubs 0.6–2 m high, stems with strigose, antrorse, appressed simple hairs, rarely small stellate hairs present on young branches. *Stipules* 1.1–2 (–2.5) mm long. *Petioles* (0.2–) 0.3–0.6 mm long. *Leaf blades* (1.5–) 2.5–4 (–8) mm long, (0.4–) 0.6–0.8 (–2.8) mm wide. *Bracts* 8–9, 1.4–2.7 mm long, 1.5–1.6 mm wide, cilia *c.* 0.2 mm long. *Pedicels* 0.2–0.3 mm long. *Hypanthium* 2.2–3.3 mm long, 2–2.3 mm wide. *Sepals* 2.2–2.8 mm long, with an indumentum of long simple hairs and very few stellate hairs. *Petals* 1–1.1 mm long. *Stamens* 0.9–1 mm long; anthers c. 0.4 mm long. *Style* 2.6–3.7 mm long. *Schizocarp* 3–3.5 mm long, torus in lower half. *Seeds* 2.1–2.3 mm long. Figs 2D, 6.

Distribution and habitat: The subspecies is recorded from forests and woodlands on poor soil on sandstone and rocky outcrops in the Leichhardt and South Kennedy districts of Qld, between the Narrien Range and the Buckland Tablelands, at 500–600 m altitude. Fig. 3B.

Phenology: Flowers May, Aug.; fruits Sep.

Etymology: The subspecific epithet is derived from the Latin *striga* (a straight, rigid, close-pressed hair) and refers to the characteristic indumentum on stems and sepals of the taxon.

Notes: This subspecies differs from the typical subspecies in having simple, antrorse, appressed hairs on stems, only young branches bear occasionally a few small underlying stellate hairs. It has smaller bracts, sepals, petals and fruits, which also have the torus in the lower half of the fruits (compared to equatorial in subsp. *speciosa*).

Specimens examined: **QUEENSLAND: Leichhardt.** Salvator Rosa Nat. Park, S of Mt Spyglass, 20 May 1986, *M.E. Ballingall 2187* (BRI); Top of Little St Peter, 21 Aug. 1984, *A.R. Bean 557* (BRI); Cungelella, 1890, *Mrs Biddulph s.n.* (MEL); Mount Zamia environmental park, overlooking Springsure, 8 May 1990, *B. Davis 40* (BRI); St Peter, NNW of Springsure, 27 Sep. 1984, *B. O'Keefe 733* (BRI); On top of Little St Peter, Springsure, 10 Sep. 1985, *B. O'Keefe 790* (BRI); Little St Peter, Sep. 1985, *B. O'Keefe 838* (BRI); Spyglass Peak, 1 Sep. 1992, *B. O'Keefe 985* (BRI); E of Tambo, adjoining Nat. Park, Dec. 1995, *E. McRobert s.n.* (BRI). **South Kennedy.** 70km SW of Clermont in Narrien Range, 24 Aug. 1992, *E.J. Thompson GAL82 & P.R. Sharpe* (BRI).

3. ***Cryptandra magniflora*** F. Muell., *Fragm.* 3: 65 (1862). *Cryptandra propinqua* var. *grandiflora* Benth. *Fl. Austral.* 1: 442 (1863). *Type citation*: 'Ad flumen Murray passim in plagis undulato-arenosis confluxui flumen Darling et Murray interjacentibus'. *Lectototype* (here designated): [N.S.W. or Vic.,] Murray desert, *s. dat.*, *s. coll.* [possibly F. Mueller] (MEL 2103262). *Residual syntypes*: [N.S.W. or Vic.,] Murray desert, *s. dat.*, *s. coll.* [possibly F. Mueller] (NSW 386703); S.A., Mt Roebuck Station sand ridges, 1858 [?], *s. coll.* (MEL 2103266). *Possible syntype*: *s. loc.*, *s. dat.*, *s. coll.* (bottom fragment-pocket glued onto a type sheet of *C. propinqua*; MEL 238175).

Cryptandra propinqua auct. non A. Cunn. ex Fenzl in Endl.: J.M. Black, *Fl. S. Austral.* 3: 371 (1926); A.J. Ewart, *Fl. Victoria* 744 (1931); E.M. Canning *in* J.P. Jessop & H.R. Toelken, *Fl. S. Austral.* 2: 810 (1986); J.H. Willis, *Handbk. pl. Victoria* 2: 372 (1973); N.G. Walsh & F. Udovicic, *Fl. Victoria* 4: 112 (1999).

Illustrations: G.R. Cochrane, B.A. Fuhrer, E.R. Rotherham, J.H. Willis, *Flowers and plants of Victoria* 70, Fig. 186 (1968), photograph; E.M. Canning in J.P. Jessop & H.R. Toelken (eds), *Flora of South Australia* 2: 809, Fig. 427F (1986); N.G. Walsh & F. Udovicic in N.G. Walsh & T.J. Entwisle (eds), *Flora of Victoria* 4: 113, Fig. 19f (1999); all as *C. propinqua*.

Shrub 0.3–1.5 m high, spreading, intricately branched, usually not spinescent, with a dense grey indumentum of intertwined or loosely appressed fine stellate and simple hairs on young stems; leaves clustered in fascicles. *Stipules* persistent, triangular or ovate, 1.2–2 mm long, apex acute, connate around the base of the petiole; abaxial surface moderately pubescent, glabrescent, adaxial surface covered with dense coarse simple hairs. *Petioles* very short or absent, 0–0.2 mm long. *Leaf blades* narrowly elliptic, 1.5–5 mm long, 0.5–1 mm wide, entire; margins revolute; base cuneate or obtuse; apex acute or obtuse sometimes shortly mucronate; lower surface usually not visible, densely grey-stellate-hairy, midrib with simple hairs; upper surface glabrous, smooth to tuberculate. *Conflorescence* axillary, 1–2 cm long, consisting of 1–10 mostly sessile flowers arranged in few-branched elongated pseudoracemes; axes densely stellate-pubescent. *Bracts* 6–10, persistent, ovate or elliptic, rarely obovate, 1.6–4 mm long, 1.3–2.5 mm wide, apex acuminate, very dark brown to black; abaxial surface sparsely to moderately pubescent with minute stellate hairs, at least towards apex; adaxial surface covered with dense coarse simple hairs; cilia regular, 0.05–0.3 mm long. *Pedicels* 0–0.4 mm long, densely pubescent. *Flowers* white or cream, becoming pinkish after anthesis. *Hypanthium* tubular, tube 1.5–2.6 mm long, 2–3.2 mm wide; covered with dense stellate hairs and additional simple hairs in upper half. *Sepals* erect or spreading, 1.8–3.5 mm long, with an indumentum of dense stellate and closely appressed simple hairs. *Petals* erect, 0.9–1.5 mm long, distinctly clawed; claw 0.2–0.3 mm long. *Stamens* erect, 0.8–1.4 mm long; anthers 0.3–0.5 mm long. *Disc* a sinuate ring, densely stellate-pubescent. *Ovary* inferior to semi-inferior, 3-carpellate; summit densely stellate-hairy. *Style* 1.7–2.6 mm long, glabrous or with a few stellate hairs on the base; stigma minutely 3-lobed. *Schizocarp* obovoid or ellipsoid, 2.8–3 mm long, brown, splitting into 3 dehiscent fruitlets; apex acute or obtuse, torus ±equatorial. *Seeds* 1.7–1.8 mm long,

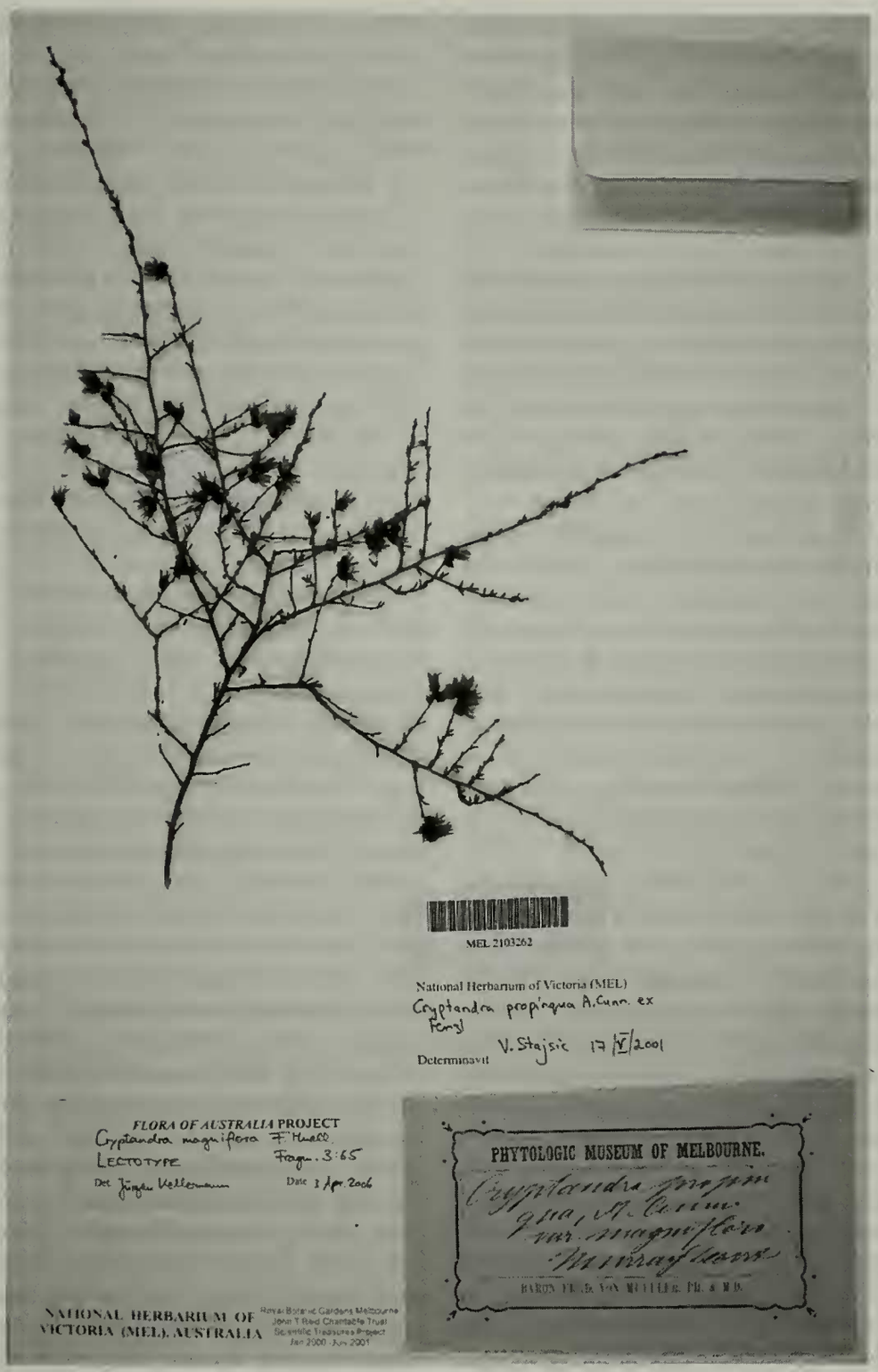

Fig. 7. Lectotype of *Cryptandra magniflora*. Collector unknown, possibly F. Mueller (MEL).

reddish-brown, ±uniformly coloured or with pale mottling, darker at base; aril pale yellow-translucent. Figs 2E, 7.

Distribution and Habitat: This species occurs in dune mallee communities and scrubs on sandstone outcrops, on sand and sandy loamy soils in the far north-west of Victoria, north-eastern South Australia, extending into south-western New South Wales; recorded at 40–100 m altitude. Fig. 3B.

Phenology: Flowers June–Sep.; fruits Sep.–Nov.

Typification: There are few specimens labelled in Mueller's hand at MEL. All of them have very

limited label information. The lectotype consists of a flowering branch and is labelled by Mueller as '*Cryptandra propinqua* A. Cunn. var. *magniflora*'. However, when Bentham reduced *C. magniflora* to a variety of *C. propinqua*, he did not take up Mueller's epithet and named it *C. propinqua* var. *grandiflora*. The specimen was collected in the plains near the Murray River, a locality which corresponds well with Mueller's protologue. The specimen from NSW bears the same label information, however, it was not written by Mueller himself. A second specimen at MEL, labelled in Mueller's hand as '*Cryptandra propinqua* var. *grandiflora*' was collected near Mt Roebuck in South Australia, possibly in 1858, but the date is not clearly legible. There is also a fragment pocket containing several flowers and leaves of *C. magniflora*, which is glued onto a possible isotype sheet of *C. propinqua* at MEL. This is labelled by Mueller '*Cryptandra magniflora*', and 'Basionym for *C. propinqua* var. *grandiflora*' in a later hand. The presence of this pocket on the MEL type of *C. propinqua* indicates that the specimen might have been used by Mueller to compare it to the Cunningham material. However, no collection information is available about the specimen in this fragment pocket. As such, it was not selected as a lectotype.

Notes: This species is closely related to *C. speciosa* with which it shares the dark brown floral bracts. *Cryptandra magniflora* can be distinguished from all other species in the *C. propinqua* complex by the presence of coarse simple hairs on the inner surfaces of the bracts and stipules. The common name **Silky Cryptandra** was applied to this taxon by Canning and Jessop (1989) and Walsh and Udovicic (1999) (both as *C. propinqua*).

Specimens examined: **NEW SOUTH WALES: South Far Western Plains.** Garston Station, W side of Darling River, 43km N Wentworth, 3 Oct. 1982, *J.H. Browne 123* (NSW); 40 km S of Pooncarie, Nov. 1974, *W.E. Mulham W799* (NSW); Tapalin mail road, off Sturt Hwy, between Euston and Buronga, 14 Aug. 1977, *W.E. Mulham 1211* (NSW). **SOUTH AUSTRALIA: Eastern.** Pualco Range, June 1970, *R. Bates 426* (AD). **Eyre Peninsula.** 20 km W of Secret Rocks, 14 July 1993, *R. Bates 33580* (AD); c. 55 km N of Wirrulla, 1 Aug. 1969, *B. Copley 2732* (AD); Below Narlara rockhole on the dog-proof fence, 28 Nov. 1991, *M.L. Evans 40* (AD); Wudinna, 5 Sep. 1938, *E.H. Ising s.n.* (AD); Yumburra Conservation Park, 4 Sep. 1984, *D. Keane 33* (AD); Munyaroo Conservation Park, 9 Aug. 1992, *A.G. Spooner 13318* (AD); 15 km N of Koonibba, 11 Sep. 1960, *D.J.E. Whibley 574* (AD). **Flinders Ranges.** N slope Yankaninna Range, 25 Feb 1956, *T.R.N. Lothian 2080* (AD). **Gairdner-Torrens.** Mt Finke, 7 Oct. 1987, *D.E. Symon 14730* (AD). **Murray.** River Murray, 7 miles [11 km] W of Berri, 25 Aug. 1962, *J.B. Cleland s.n.* (AD); Mantung District, 18 Aug. 1924, *J.B. Cleland s.n.* (AD); 2.4 km S of claypan on Gluepot Calperum fence line, 21 Aug. 1997, *S. Donaldson 1245 & G. Flowers* (AD, CBG at CANB); Black Oak Plains, N of Murray River, 20 Aug. 1974, *N. Gemmell 283* (AD); SW of campsite in Pooginook Conservation Park, 19 Aug. 2004, *T. Hall 519* (AD, DAO *n.v.*); Upper Murray Mallee, Canegrass Station, 21 Sep. 1937, *E.H. Ising s.n.* (AD); c. 15 km W of Chowilla wool-shed, 30 Aug. 1974, *J.B. Paton s.n.* (AD); Calperum south-west, 26 Aug 1990, *A.G. Spooner 12151* (AD); Pooginook Conservation Park, 18 Aug. 1993, *A.G. Spooner 14285* (AD); Calperum Station, 18 Aug. 1996, *A.G. Spooner 15878* (AD, AK *n.v.*); 10 km NE of Taylorville, 29 Sep. 1976, *L.D. Williams 8685* (AD). **Nullarbor.** 1.5 km E of Immarna, 29 Sep. 1975, *R.J. Chinnock 2667* (AD). **VICTORIA: Murray Mallee.** Northern Sunset Country, 13 km NW of centre of Rocket Lake, 13 Sep. 1989, *D.E. Albrecht 3872* (MEL); c. 3.7 km E of Hattah, 13 Sep. 1989, *D.E. Albrecht 3876* (MEL); Hattah Lakes Nat. Park, Oct. 1948, *A.C. Beauglehole ACB 1116* (MEL); near junction of Murray Valley Hwy and entrance to Hattah-Kulkyne, 30 Aug. 1977, *D.G. Cameron 8721* (MEL); Red Cliffs, Stewart, 5 Sep. 1961, *L.C. Chandler & A.C. Beauglehole 19745* (MEL); Northern Sunset Country, 23 Aug. 1986, *D.C. Cheal s.n.* (MEL); Pink Lakes, c. 15 km N of Linga, 28 Aug. 1979, *M.G. Corrick 6232 & B.A. Fuhrer* (AD, MEL); Redcliffs, western extremity of irrigation area, 1 Aug. 1981, *M.G. Corrick 7477* (MEL); 8 miles [13 km] W of road junction 14 miles [22 km] N of Birthday Tank, Sunset, 24 Sep. 1965, *R. Filson 7418* (AD, MEL); Underbool N track, 5.2 km S of Rocket Lake track, 23 Aug. 1986, *G.R. Lucas 198* (CANB, HO); S end of Hattah Kulkyne Nat. Park, *s. dat.*, *K. Macfarlane 129* (AD, CANB, HO, MEL, NSW); Sunset country, several miles NW of Mt Crozier, 10 July 1962, *A. McEvey 35* (MEL); c. 17 miles [27 km] N of Ouyen of the Calder Hwy, 17 Aug. 1960, *T.B. Muir 1195* (AD); Banneston, 13 Aug. 1960, *E. Rowlands s.n.* (MEL); Hattah-Kulkyne Nat. Park, 0.2 km from Calder Hwy, 9 Sep. 1986, *N.G. Walsh 2568* (MEL); Sunset Country, Werrimull South track extension, 18 Sep. 1989, *N.G. Walsh 2623* (MEL); Murray Sunset Nat. Park, 4 Sep. 1999, *N.G. Walsh 5090* (MEL); Ouyen, Sep. 1913, *H.B. Williamson s.n.* (AD, CANB, HO, MEL, NSW); Kooloonong, Sep. 1924, *H.B. Williamson s.n.* (CANB); Kulkyne Nat.

Park, 1 Sep. 1941, *J.H. Willis s.n.* (MEL).

4. ***Cryptandra ciliata*** A.R. Bean, *Austrobaileya* 6: 927 (2004). *Holotype*: Qld, Leichhardt District, 28 km from Cracow on Nathan Gorge road, 15 July 1990, *P.I. Forster PIF7037* (BRI AQ627884). *Isotypes*: AD *n.v.*, CANB *n.v.*, K *n.v.*, MEL 2263651, NSW *n.v.*

Cryptandra sp. 1 *sensu* J.D. Briggs & J.H. Leigh, *Rare Threat. Austr. Pl.* (1995).

Cryptandra sp. (Gurulmundi G.W. Althofer 8418) *sensu* A.R. Bean *in* R.J.F. Henderson, *Names distrib. Queensl. pl. algae lich.* (2002).

'*Cryptandra* sp. Q3 (aff. *propinqua*)' (BRI herbarium phrase name).

Illustrations: A.R. Bean, *Austrobaileya* 6: 927, Fig. 4 (2004), photograph.

Shrubs 0.25–1 m high, not spinescent, young stems with a dense grey indumentum of small stellate hairs underlying coarse antrorse simple or multiarmed hairs that spread at c. 30° from the stem; leaves clustered in fascicles. *Stipules* persistent, narrowly triangular, 1–2 mm long, scarious, apex attenuate, connate around the base of the petiole; abaxial side sparsely to moderately pubescent on midrib and margin; adaxial side glabrous. *Petioles* very short, 0.1–0.3 (–0.5) mm long. *Leaf blades* narrowly ovate to narrowly elliptic, 1.2–2 (–2.5) mm long, 0.3–0.5 mm wide, entire; margins revolute; base cuneate; apex acute or obtuse; lower surface largely obscured, densely grey-stellate-hairy, midrib with sparse to moderately dense, loosely appressed simple hairs; upper surface glabrous, smooth or sometimes shortly scabrous. *Inflorescence* of individual, axillary flowers, or these aggregated in hemispherical and terminal conflorescences, 3–6 cm long, 5–8 cm wide, consisting of 1–10 almost sessile flowers arranged in few-branched contracted pseudoracemes; axes densely stellate-pubescent. *Bracts* 7–10, persistent, broadly obovate or orbicular, 1.8–2.6 mm long, 0.9–1.5 mm wide, obtuse, light brown with papery, corrugated upper margins; abaxial surface usually glabrous; adaxial surface glabrous; cilia long, flexuose, 0.3–0.6 mm long. *Pedicels* 0.2–0.3 mm long, densely pubescent. *Flowers* white. *Hypanthium* tubular, tube 0.7–1.2 mm long, 1.5–2.3 mm in diameter; upper 1/5 to 1/2 covered with dense stellate hairs. *Sepals* erect or slightly spreading, 1.5–2.2 mm long, with a grey indumentum of dense stellate and very few simple hairs at the apex. *Petals* erect, 0.7–0.8 mm long, indistinctly clawed (c. 0.1 mm long) or not clawed. *Stamens* erect, 0.5–0.7 mm long; anthers c. 0.3 mm long. *Disc* a sinuate ring, densely stellate-pubescent. *Ovary* inferior to semi-inferior, 3-carpellate; summit densely stellate-hairy. *Style* 0.7–1.1 mm long, ±entire, glabrous. *Schizocarp* obovoid or ellipsoid, 2.7–3 mm long, brown, splitting into 3 dehiscent fruitlets; apex acute or obtuse, torus in upper half. *Seeds* 1.5–1.8 mm long, reddish-brown, ±uniformly coloured, dark brown at base; aril pale yellow-translucent. Fig. 2F.

Distribution and Habitat: Occurs in heathland, shrubland or woodland on steep, rocky sandstone slopes and ridges on sandy soil or sandy loam, from Barakula State Forest to the area west of Theodore. Fig. 3B.

Phenology: Flowers May–Aug. Fruits Sep.–Oct.

Notes: The species differs from *C. propinqua* in having very long, flexuose cilia on the bracts and attenuate stipules. One specimen, *Brushe JB1518*, has very long hairs on the abaxial side of the bracts, in addition to the long cilia. It might be an aberrant form of the species or may prove to be a distinct taxon. Further collections are warranted.

Specimens examined: **QUEENSLAND. Darling Downs.** Gurulmundi, June 1978, *G.W. Althofer 8418* (BRI); NW corner of Barakula Forestry, 24 Aug. 1980, *V. Hando 151* (BRI); 15 miles [24 km] NW of Barakula Forestry, 24 Aug. 1980, *V. Hando 214* (BRI); Gurulmundi, May 1958, *F.D. Hockings s.n.* (BRI); Gurulmundi, June 1962, *F.D. Hockings s.n.* (BRI); Taroom-Cracow road, about 20 miles [32 km] from Cracow, 26 June 1950, *R.W. Johnson 809* (BRI). **Leichhardt.** Cracow-Taroom road, S of Fairyland, 16 Sep. 1990, *A.R. Bean 2302* (BRI); Planet Downs pastoral holding, 29 Mar. 1998, *J. Brushe JB1518* (BRI); Gwambagwine, 24 Sep. 1996, *P.I. Forster PIF19653* (BRI, CANB); Gwambagwine, 24 Sep. 1996, *P.I. Forster PIF19668* (BRI, CANB, NSW); Gwambagwine, 11 Sep. 2000, *P.I. Forster PIF26056, R. Booth & F. Carter* (BRI, MEL); Panda Corner, Barakula State Forest, 24 Sep. 1978, *F.D. Hockings s.n.* (BRI); Retreat Creek Rd, 16 miles [26 km] from Miles, 3 May 1960, *R.W. Johnson 1628* (BRI); 16 miles [26 km] SSW of Cracow township, 10 July 1963, *M. Lazarides 6948* (BRI, CANB, MEL, NSW); 18 miles [29 km] S of Cracow, 18 Feb. 1964, *N.H. Speck 1930* (BRI, CANB, NSW); Cracow-Taroom road, 18 Aug. 1976, *K.A.W. Williams 76009* (BRI).

ACKNOWLEDGEMENTS

We thank Judy West (CANB) for examining and photographing the type of *Cryptandra propinqua* at W. Uwe Braun (HAL) sent images from Schlechtendal's herbarium. Bob Coveny and Ian Simpson provided information on specimens from NSW and NE, respectively. We are grateful to the directors of AD, BM, BRI, CANB, K and NSW for the loan of specimens. Jo Palmer (CANB) organised the transfer of several loans from Canberra to Melbourne. Neville Walsh (MEL) commented on an earlier draft of the paper. Two anonymous reviewers provided constructive feedback and criticism. This paper is written in preparation of the *Flora of Australia* treatment of Rhamnaceae, supported by the Australian Biological Resources Study (ABRS).

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